

US009409043B2

(12) United States Patent

Franken

(10) 2400 011

(10) **Patent No.:**

US 9,409,043 B2

(45) **Date of Patent:** Aug. 9, 2016

(54) GLASS BREAKING TOOL, METHOD FOR BREAKING GLASS

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(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 13/822,537

(22) PCT Filed: Sep. 9, 2011

(86) PCT No.: PCT/NL2011/050618

§ 371 (c)(1),

(2), (4) Date: May 22, 2013

(87) PCT Pub. No.: WO2012/036548

PCT Pub. Date: Mar. 22, 2012

(65) **Prior Publication Data**

US 2013/0227795 A1 Sep. 5, 2013

(30) Foreign Application Priority Data

(51) Int. Cl.

B26B 11/00 (2006.01) **A62B 3/00** (2006.01)

(52) U.S. Cl.

 (56) References Cited

U.S. PATENT DOCUMENTS

947,391 A 1,572,046 A 2,787,179 A 3,172,204 A 3,900,058 A 4,682,412 A 5,360,211 A	* *	2/1926 4/1957 3/1965 8/1975 7/1987	Michael 30/367 Seiler 30/367 Warner 30/367 Frey 30/367 McArdle 81/463 Pfeffer 29/750 Smith et al. 267/180
3,900,058 A	*	8/1975	McArdle 81/463
5,657,543 A	*		Collins 30/367
5,791,056 A 6,079,071 A			Messina Sablan et al.

(Continued)

FOREIGN PATENT DOCUMENTS

CN 200955930 10/2007 DE 4016612 11/1991

(Continued)

OTHER PUBLICATIONS

Office Action from the corresponding Chinese Application No. 2011800546284 dated Oct. 20, 2014.

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(57) ABSTRACT

A glass breaking tool for breaking a glass pane comprising a head arranged for contact with the glass pane, a handle movable with respect to the head and a pin crusher arranged in the head and handle wherein the tool is adjustable between a rest position in which the pin crusher is locked inside the head, a releasing position in which the pin crusher is released inside the head and a breaking position in which a tip of the pin crusher is at least partially outside the head.

20 Claims, 6 Drawing Sheets

